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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,881	04/28/2001	Bharti Temkin	12001-104	1751
26486	7590	08/23/2004	EXAMINER	
PERKINS, SMITH & COHEN LLP ONE BEACON STREET 30TH FLOOR BOSTON, MA 02108			NGUYEN, KEVIN M	
			ART UNIT	PAPER NUMBER
			2674	14

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/844,881	TEMKIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 March 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 2-6 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date: _____.	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

1. The amendment filed on 3/20/2003 is entered. The new claims 2-6 are necessitated the new ground(s) of rejection presented in this Office action.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Stewart et al (US 5,694,013).

4. As to claim 2, Stewart et al teaches a system associated with a method, the system comprising

a haptic interface (fig. 3), and a virtual space V in three dimensions having a parametric surface S (fig. 4A) (col. 2, lines 51-56).

the computer 32 synchronizes processor 1 (44) (fig. 3) including system graphics loop, and processor 2 (46) (fig. 3) including system haptic rendering loop (col. 3, line 65 through col. 4, line 1).

the design form can be a surface S which is displayed on the screen 16 (fig. 2), or can be viewed in a virtual reality viewing device 18 which attached directly to the head of the human operator 10 (fig. 1) (col. 3, lines 34-37).

As to claim 3, Stewart et al teaches the design form can be a surface S which is displayed on the screen 16 (a visual cue, fig. 2, col. 3, lines 34-35),

The force actuation check determines when a force must be generated at the physical device 12 (col. 4, lines 13-15). A haptic interface for generating the sensations of rigidity and facial roughness of virtual objects, such as the surface S, is provided through the physical device 12 (col. 3, lines 38-40).

As to claim 4, Stewart et al teaches the design form can be a surface S which is displayed on the screen 16 (a visual cue, fig. 2, col. 3, lines 34-35),

The force actuation check determines when a force must be generated at the physical device 12, while the force calculation determines numerical values of the magnitude and direction of the force to be generated. The decision to actuate a force at the physical device 12 is determined by an occurrence of spatial impedance, or a virtual collision, between the device point P and the surface S, as the device point P moves in the space V (col. 4, lines 13-21).

As to claim 5, Stewart et al teaches In FIG. 4A, a virtual space V in three dimensions has a parametric surface S and a device point P representing a movable position, such as an operator's finger tip or the tip of the space pen 20. The surface S is a free-form, parametric surface patch, represented in two variables as  $S(u, v)$ , as opposed to an algebraic surface which is closed, such as a sphere, or a planar surface with infinite extension. The surface S is treated as an undeformable geometry. A collection of device points,  $P_i$  (where  $i=0, 1, \dots n$ ) represents a path of the tip of the space pen 20 in a given period of time as it is moved in the virtual space V (col. 4, lines 25-37).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al in view of Isobe et al (US 5,786,848).

As to claim 6, Stewart et al teaches a haptic interface method to model force feedback from parameter free-from surfaces (col. 5, lines 14-15).

Stewart et al fails to teach shuttering...one image at a time to each eye for the user while the other eye of the user is covered, interlacing video display and buffered delivery of image data to different scan lines.

Isobe et al teaches the viewer see left and right video images each having an interface factor 2:1 with his respective left and right eyes, using glass 9 having respective liquid crystal shutters which are alternately opened and closed (fig. 1, col. 5, lines 2-6). Video signal VIDEO (see fig. 7C), the PLD 38 stores shutter switching control signals SSW1, SSW2 (figs. 7G and 7H) are different scanning lines.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stewart's viewing device 18 including left and right eyes of glass 9 having respective liquid crystal shutters which are alternately opened and closed, and video signal VIDEO (see fig. 7C), the PLD 38 stores shutter switching control signals

SSW1, SSW2 (figs. 7G and 7H) are different scanning lines, in view of the teaching in the Isobe's reference because this would provide a three-dimensional video signal generator for generating a three-dimensional video signal without losing portions of left and right video signals as taught by Isobe et al (col. 1, lines 46-50).

7. Applicant's arguments with respect to claims 2-6 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9306 (for Technology Center 2600 only)**

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen  
Patent Examiner  
Art Unit 2674

KN  
August 19, 2004



RICHARD HJERPE 8/20/04  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600